

REMARKS

Claims 1-43 are pending in this application. Claim 41 has been amended in the expectation that the amendments will place this application in condition for allowance. The amendments do not introduce new matter within the meaning of 35 U.S.C. §132. Basis for the amendments to the claim is found on page 3, line 27 to page 6, line 11, and in the documents incorporated by reference therein; in claims 1-43 as originally filed; and elsewhere throughout the specification and claims. Accordingly, entry of the amendments is respectfully requested.

Applicant takes this opportunity to thank the Examiner for the indication of allowable subject matter, recognizing the novelty and non-obviousness of the inventive subject matter described in claims 9, 13, 17, 21, 25, and 29, conditioned upon the resolution of the rejections under 35 U.S.C. §112, second paragraph.

1. Objections to the Drawings

The Office Action objects to the drawings as informal, and requires the filing of formal drawings.

Response

Applicant will submit formal drawings under separate cover. Accordingly, Applicant respectfully requests the Examiner to reconsider and withdraw the objection to the drawings.

**2. Rejection of Claim 41 under 35 U.S.C. § 112,
second paragraph**

The Office Action rejects claim 41 under 35 U.S.C. §112, second paragraph, for the following reasons:

The preamble of claim 41 is unclear. It appears that the phrase "encoded on a computer-readable storage medium" should be inserted after "computer program."

Response

Claim 41 reads, in pertinent part, "A computer program comprising: computer-readable instructions **encoded on a computer-readable storage medium...**" (emphasis added). Applicant respectfully submits that the limitation that the Examiner suggests must be added is already present.

However, in order to advance prosecution, Applicant has amended claim 41 to move the phrase "encoded on a computer-readable storage medium" from the body of the claim to the preamble. Applicant has thus made a broadening amendment, and thanks the Examiner for his advice.

Accordingly, Applicant respectfully requests the Examiner to reconsider and withdraw the rejection of claim 41.

**3. Rejection of Claims 1-8, 10-12, 14-16, 18-20, 22-24, 26-28,
and 30-43 under 35 U.S.C. §103(a)**

The Office Action rejects claims 1-8, 10-12, 14-16, 18-20, 22-24, 26-28, and 30-43 under 35 U.S.C. §103(a) as being

unpatentable over Chishti et al. (6,227,850) in view of Fabricant (4,231,181). As the basis for this rejection, the Office Action states:

Chishti et al. teaches a teeth viewing system, method, or a program having instructions embedded in a storage medium, in which a user, through a user interface, performs one or more tasks within a virtual environment, the system comprising: a virtual environment having a customized virtual three-dimensional dental image of at least one tooth of the user (2:21-55 and Fig. 5); and said one or more tasks comprise improving a certain virtual condition associated with said at least one tooth; said virtual image comprises a plurality of teeth of at least a continuous section of teeth, substantially all teeth of at least one jaw, substantially all teeth of both the upper and lower jaws; the user can manipulate the mutual orientation of the two jaws; said condition is an inappropriate relative position or orientation of at least one tooth or of a jaw; and said one or more tasks comprise re-orientation of one or more teeth (Figs. 7-17); said one or more tasks are being performed by applying virtual rules, tools or components, corresponding to manner of dental, personal or orthodontic treatment of teeth or jaws; said condition a disorder in or lack of structural integrity of one or more teeth, and said one or more tasks comprise improving or fixing said disorder or lack of structural integrity; virtual rules comprise rules of movements of teeth or jaws corresponding to such in a real-life orthodontic treatment; extracting data from a storage medium, the data being representative of a virtual environment comprising a virtual three-dimensional dental image of at least one tooth of the user, and displaying said virtual environment; and performing, in response to a user command, one or more tasks within a virtual environment to obtain a modified environment and displaying same; storing data representative of said modified environment in a storage medium; repeating said performing step a plurality of times; manipulating, in response to a user command, the relative position or orientation of at least one tooth or of a jaw. See 1:50-20:65 and Figures 1-20. Chishti et al. does not explicitly teach the limitations of the system, method, or program embedded in a storage medium is for a computer game; virtual tools or

components comprise virtual personal mouth hygiene tools (claims 18-20, 40); virtual tools or components are virtual orthodontic components corresponding to real-life orthodontic components (claims 22-24, 40); virtual rules permitting elimination of virtual infectious agents from the virtual teeth (claims 26-28).

Fabricant, however, teaches a dental toy comprising simulated tools or components comprise simulated personal mouth hygiene tools (Fig. 1); simulated tools or components are simulated orthodontic components corresponding to real-life orthodontic components; simulated rules permitting elimination of simulated infectious agents from the simulated teeth (3:24-27). See also, columns 1-4 and Figures 1-7.

It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to combine Chishti et al.'s personalized dental images with a simulated dental toy of Fabricant to come up with a personalized virtual dental game in order to attract more people other than regular game players, thus bring forth more profits from the game.

Applicant's arguments filed February 27, 2004 have been fully considered but they are not persuasive. Applicant's argument regarding Chishti et al. and Fabricant not teaching personalized or customized game (Applicant's remarks, pages 24-27) is not persuasive. Chishti et al. does teach a personalized or customized virtual three dimensional dental image of a user (patient) (2:21-55 and Fig. 5); and Fabricant further teaches a dental game having toys simulated personal mouth hygiene tools (Fig. 1).

Response

Applicant respectfully traverses this rejection. To establish a *prima facie* case, the PTO must satisfy three requirements. First, the prior art reference must teach or suggest all the limitations of the claims. *In re Wilson*, 424 F.2d 1382, 1385, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970). Second, the prior art relied

upon, coupled with the knowledge generally available in the art at the time of the invention, must contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference. *In re Fine*, 837 F.2d 1071, 1074, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). Third, the proposed modification of the prior art must have had a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made. *Amgen, Inc. v. Chugai Pharm. Co.*, 927 F.2d 1200, 1209, 18 U.S.P.Q.2d 1016, 1023 (Fed. Cir. 1991). The Office Action meets none of these requirements and fails to establish a *prima facie* case of obviousness.

A. The cited art does not teach or suggest all the limitations of the claims. The Chishti reference discloses a method for performing tasks on a three-dimensional virtual model of an orthodontic patient's teeth, for the "computer-automated development of an orthodontic treatment plan and appliance" (column 1, lines 14-15). As amended, the claimed inventive subject matter relates to a game for the manipulation of a customized virtual model of the teeth of a predetermined user **himself or herself**. Disclosed purposes for the inventive game include particularly the education of the user about his or her orthodontic treatment and/or dental hygiene.

Applicant appreciates that the Examiner has defined precisely what he believes Chishti teaches. However, contrary to the Office Action, Chishti, does not disclose a computer program which is personalized or customized for a predetermined user, in which the user, **himself or herself**, performs tasks on a virtual model of his own teeth. Chishti discloses the use of a patient's personalized dental images **in a computer program operated by a dental professional**, not by the patient himself or herself. Fabricant does not remedy this deficiency.

Thus, in the absence of any teaching or suggestion in the cited documents that the prior art treatment systems, designed for use in the computer-automated development of an orthodontic treatment plan and appliance for an orthodontic patient by an orthodontic professional, would be useful for amusing and/or educating a dental patient directly and personally, the claims of the present application cannot be obvious over the cited documents. Accordingly, independent claims 1, 30, 41, 42, and 43, along with all claims dependent therefrom, are novel and inventive over the cited documents.

B. The cited art does not contain any suggestion or incentive that would have motivated the skilled artisan to modify a reference with a reasonable expectation of success. As discussed above, the subject matter of Chishti relates to a computer program for

designing an orthodontic appliance. There is no element suggesting a game for involving a patient in his/her dental care in Chishti. Chishti is a tool for a working dental or orthodontic office, and suggests no educational or entertainment goal(s) involving the patient personally.

On the other hand, Fabricant teaches a real toy for attempting to involve a patient in his/her dental care. Fabricant discloses a game set having a generic mouth and teeth, and a set of dental tools, but does not teach or suggest the additional level of patient involvement which is provoked by personalizing the mouth and teeth so that it is the patient's own physiology, and dental problems, which the game depicts.

As a motivation to combine these non-analogous references, the Examiner offers only a very basic, generic explanation of the motivation he finds to combine these references: "... to attract more people other than regular game players, thus bring forth more profits from the game."

In order to support a finding of obviousness, the Examiner must show that the prior art suggests the desirability of the claimed invention. Vague or generic pronouncements are insufficient. As discussed in detail in the MPEP, "[t]here are three possible sources for a motivation to combine references: the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art." (MPEP

§2143.01; *In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457-58 (Fed. Cir. 1998); *Al-Site Corp. v. VSI Int'l Inc.*, 174 F.3d 1308, 50 USPQ2d 1161 (Fed. Cir. 1999). "In determining the propriety of the Patent Office case for obviousness in the first instance, it is necessary to ascertain whether or not the reference teachings would appear to be sufficient for one of ordinary skill in the relevant art having the reference before him to make the proposed substitution, combination, or other modification." (MPEP §2143.01; *In re Linter*, 458 F.2d 1013, 1016, 173 USPQ 560, 562 (CCPA 1972).) The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. (MPEP §2143.01; *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990).) If a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. (MPEP §2143.01; *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).)

The nature of the problem to be solved. The Office Action does not address this factor, other than to make generalizations about regular game players and profit motives. The inventive subject matter is not intended to attract game players at all, and such persons are irrelevant to the purposes of educating a dental

patient about his own condition and course of care. Improving patient education is the primary problem to be solved, and "bringing forth more profits from the game" is irrelevant to solving that problem. The inventive subject matter is educational, and does not relate to Nintendo, Playstation, Xbox, or any other medium generally of interest to regular game players and designers of regular, profit-oriented games.

The teachings of the prior art. Chishti teaches a technical computer program for designing and producing a product: orthodontic appliances. That function of Chishti would be destroyed by permitting a patient to access and manipulate the patient's data during the appliance design process. The modification of Chishti proposed by the Examiner would thus render the prior art computer program disclosed in Chishti unsatisfactory for its intended purpose.

The knowledge of persons of ordinary skill in the art. The Office Action does not address this factor. The Office Action fails to explain how a person of ordinary skill in the orthodontic appliance design and manufacturing arts would find it obvious to combine a computer program made expressly for that purpose with a child's toy, to produce an educational tool in the form of a virtual three-dimensional dental image of, upon which the patient can then perform dental or orthodontic tasks relating to improving a virtual condition associated with the patient's tooth or teeth.

Thus, the Office Action meets none of the requirements for supporting a finding of obviousness, and offers no sources for a motivation to combine references: consideration of the relevant factors, the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art, leads to the conclusion that the cursory and generic argument made by the Examiner does not support a finding of obviousness. Lacking a showing of motivation to combine, the Office Action fails to make a *prima facie* showing of obviousness.

Accordingly, Applicant respectfully requests that the Examiner reconsider and withdraw this rejection.

CONCLUSION

Based upon the above remarks, the presently claimed subject matter is believed to be patentably distinguishable over the prior art of record. The Examiner is therefore respectfully requested to reconsider and withdraw the rejections of remaining claims 1-43 and allow all pending claims presented herein for reconsideration. Favorable action with an early allowance of the claims pending in this application is earnestly solicited.

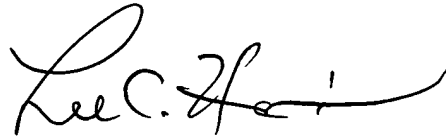
The Examiner is welcomed to telephone the undersigned attorney if he has any questions or comments.

Respectfully submitted,

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Date: January 25, 2005

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